Socioeconomic Differences in Hysterectomy: The Wisconsin Longitudinal Study

ABSTRACT

Objectives. This study evaluated the relative gross and net predictive value of multiple socioeconomic status indicators for the likelihood of undergoing hysterectomy.

Methods. Data from a sample of Wisconsin Longitudinal Study women respondents (n = 3326) followed for 35 years were analyzed by means of multivariate logistic regression.

Results. Women's own higher occupational status and greater family net worth were significant net predictors of a lower likelihood of hysterectomy. Women's own education was a significant bivariate predictor. Mental ability did not account for the education effect.

Conclusions. Higher education's association with a lower rate of hysterectomy is not due to ability, but to the opportunities that more-educated women have for higher-status employment and its health-related benefits. Measures of women's own occupational status should be included in future health surveys. (*Am J Public Health.* 1997;87:1507–1514)

Nadine F. Marks, PhD, and Diane S. Shinberg, MS

Introduction

Women of lower socioeconomic status (SES) are more likely than higher-SES women to undergo a hysterectomy.[1,2] This association is consistent with a substantial accumulation of evidence that lower SES is associated with poorer health-related outcomes overall for both women and men.[3–10] Hysterectomy brings more than one in three American women into major surgery by age 60.[11] This rate of uterus removal far exceeds that of any other country in the developed world.[11–14] Significant regional hysterectomy rate differences have also been noted in the United States[11] as well as England.[15]

Only about 11% of hysterectomies in the United States are performed because of cancer of the uterus. The vast majority of uterine removal takes place for conditions that can also be managed by means of other techniques.[11,16,17] This fact, along with marked national and regional rate variation, suggests that social as well as biological processes are important determinants of hysterectomy.

Different measures of SES—for example, income, education, and occupational status—yield a roughly similar picture of health-related inequalities. Yet there is considerable public health debate about which measures of SES show the largest net associations with health and health care utilization and whether it is important to evaluate more than one measure of SES when looking at SES and health-related differentials.[18–22] It is also questionable whether the *same* SES measures are the most important predictors of health-related outcomes for different population groups—for example, women vs men, nonelderly vs elderly, non-Hispanic Whites vs ethnic minority groups.[23–25]

Examining the relative value of various measures of SES is an important

epidemiologic issue because such understanding is critical (1) to chart SES and health-related differentials most reliably and accurately, (2) to guide the search for proximate mechanisms underlying the association of SES with health and health care utilization,[22,26,27] and (3) to influence the design of future health surveys. Extant population analyses of SES and hysterectomy are cross-sectional and are limited in their measurement of SES. The primary purposes of this study were to investigate several previously unexamined gross and net associations of women's SES with hysterectomy and to examine SES and hysterectomy relationships using longitudinal data in which most SES measures are assessments made prior to the occurrence of a hysterectomy.

Methods

Data for this study came from the Wisconsin Longitudinal Study, a long-term study of a random sample of 10 317 men and women who graduated from Wisconsin high schools in 1957. Data were collected from the original respondents, their parents, or administrative records from 1957 through 1975. In 1992 and 1993, telephone interviews were completed with 89.9% of living respondents. Mail-back surveys were received from 82.3% of telephone respondents,

Nadine F. Marks is with the Department of Child and Family Studies and Diane S. Shinberg is with the Department of Sociology, University of Wisconsin–Madison. The authors are also with the Center for Demography and Ecology and the Institute on Aging, University of Wisconsin–Madison.

Requests for reprints should be sent to Nadine F. Marks, PhD, Department of Child and Family Studies, University of Wisconsin–Madison, 1430 Linden Dr, Madison, WI 53706.

This paper was accepted October 2, 1996.

yielding a response rate of 72.7% of living original-sample respondents for the mail-back data.[28] The analytic sample (n = 3326) used here included female mail-back survey respondents from 1992/93 who were also respondents in 1975. The Wisconsin Longitudinal Study respondent women are almost all non-Hispanic White.

Women respondents to the mail-back survey received one of two versions of the questionnaire. In the first version, the women were asked if they had gone through or if they were currently going through menopause. If they answered yes they were asked, "Was menopause induced or hastened by a hysterectomy (surgical removal of your uterus and/or ovaries)?" (yes or no). The second version asked directly, "Have you ever had surgery to remove your uterus and/or ovaries?" and elicited from respondents all surgeries that applied to them—that is, surgery to remove one ovary, two ovaries, and/or the uterus. All respondents to the first version who indicated that they had had menopause induced or hastened by a hysterectomy and all respondents to the second version who indicated that they had had their uterus surgically removed were coded as having had a hysterectomy. Owing to the faulty wording of the first version, some women who had had only an oophorectomy may have been inaccurately cued to report a hysterectomy. A comparison of respondents to the two versions of the questionnaire (each version was mailed to a random subsample replicate of the Wisconsin Longitudinal Study respondent pool) indicated that the proportion of women reporting a hysterectomy on both questionnaires was virtually the same, increasing our confidence in the data from respondents to the first version. About 31% of the study's main respondent women reported having undergone a hysterectomy. (See Table 1 for descriptive statistics for all analysis variables.) This proportion is comparable to a hysterectomy prevalence estimate of about 34% for all US women aged 50 through 54 years in 1985.[11] Like other health data estimates based on respondent self-reports, the Wisconsin study's prevalence estimate must still be considered cautiously, since we cannot estimate with precision how reliably these women were able to report surgical organ removal.

Father's education and mother's education are based on respondent reports in 1975. Father's occupational status was also reported in 1975 and is measured in quintiles (based on the entire sample of men and women) of the Duncan Socioeconomic Index male-based score for 1970 census occupation and industry categories.[29] The same index was also used for

TABLE 1—Means and Standard Deviations for Analysis Variables: The Wisconsin Longitudinal Study (n = 3326)

	Mean[a]	SD
Hysterectomy	0.31	
Father's education	9.76	3.40
Less than high school diploma	0.61	
High school diploma	0.25	
Some college	0.06	
Bachelor's degree or higher	0.07	
Mother's education	10.39	2.86
Less than high school diploma	0.52	
High school diploma	0.33	
Some college	0.09	
Bachelor's degree or higher	0.06	
Father's occupational status 1957, SEI	350.40	233.35
Lowest quintile	0.26	
2nd quintile	0.12	
3rd quintile	0.20	
4th quintile	0.21	
Highest quintile	0.21	
Missing	0.01	
Parents' income 1957	6312.00	5082.00
Lowest quintile	0.18	
2nd quintile	0.18	
3rd quintile	0.19	
4th quintile	0.19	
Highest quintile	0.19	
Missing	0.06	
Mental ability	102.21	14.16
Lowest quintile	0.15	
2nd quintile	0.19	
3rd quintile	0.22	
4th quintile	0.22	
Highest quintile	0.23	
Respondent's education	13.37	2.03
High school diploma	0.61	
Some college	0.16	
Bachelor's degree or higher	0.22	
Occupational status 1975, at age 35, SEI	461.26	197.38
Lowest quintile	0.18	
2nd quintile	0.16	
3rd quintile	0.28	
4th quintile	0.21	
Highest quintile	0.14	
Never worked as of 1975	0.03	
Spouse's occupational status 1975, SEI	498.37	251.62
Lowest quintile	0.14	
2nd quintile	0.18	
3rd quintile	0.13	
4th quintile	0.17	
Highest quintile	0.21	
Missing	0.17	
Respondent's income 1974	2903.00	4319.00
Zero income	0.42	
Lowest quintile	0.11	
2nd quintile	0.10	
3rd quintile	0.11	
4th quintile	0.10	
Highest quintile	0.11	
Missing	0.05	

(Continued)

TABLE 1—Continued

	Mean[a]	SD
Spouse's income 1974	14443.00	10583.00
Zero income	0.10	
Lowest quintile	0.10	
2nd quintile	0.18	
3rd quintile	0.09	
4th quintile	0.21	
Highest quintile	0.17	
Missing	0.16	
Not married 1975	0.16	
Married 1993	0.81	
Net worth 1993	232997.00	456428.00
$5 000 or less	0.09	
$5 001–$25 000	0.06	
$25 001–$50 000	0.07	
$50 001–$100 000	0.19	
$100 001–$200 000	0.26	
$200 001–$400 000	0.20	
$400 001 or more	0.13	
Own home 1993	0.90	
Missing	0.004	
Number of children born	2.77	1.66
None	0.11	
1 child	0.08	
2 children	0.25	
3 children	0.27	
4 children	0.17	
5+ children	0.12	
Age at first birth, y	23.08	3.67
≤19	0.15	
20–21	0.26	
22–23	0.21	
24–29	0.23	
30–54	0.05	
Three or more children before age 24	0.45	

Note. SEI = Duncan Socioeconomic Index.[29]
[a]Means for categorical variables are proportions.

spouse's occupational status in 1975 and respondent's occupational status in 1975. The index based on male employment data has been established to be the most reliable index for use with both men and women.[30,31] Since the Duncan Socioeconomic Index is based on job-level education and earnings, it is only moderately correlated with individual-level education and earnings. (An appendix containing a correlation matrix for all the SES measures included in the analysis is available from the authors.)

Parents' income was computed by means of information obtained from Wisconsin State tax files from 1957 to 1960. Respondent's education is based on respondent's report as of 1992/93. Mental ability (measured primarily as verbal ability, a component of mental ability found to be quite stable over adulthood[32]) was assessed by the Henmon-Nelson

intelligence test, which all respondents took during their junior year of high school (in 1956) and which was added to the study data from school records. Mental ability was included in this analysis to better estimate the actual net effect of education above and beyond its association with personal differences in cognitive performance.

Respondent's occupational status 1975 was measured by means of the Duncan male-based socioeconomic index (1970 census)[29] for respondents' current or last reported job at the time of the 1975 survey, when they were about 35 or 36 years old, which is younger than the age when the highest rates of hysterectomy occur—that is, ages 40 through 44.[11] This measure was not taken before all of the reports of hysterectomy by the women in the study, but it was taken prior to the vast majority of them (about 79%). Only 2.5%

of the women had never worked as of 1975 and thus could not be coded on this variable; these cases were coded as "never worked" and included as an occupational status contrast in the analyses.

Own income 1974 and spouse's income 1974 were based on respondent reports in 1975. Net worth 1993 (family) was calculated by adding up the estimated value minus the outstanding debt respondents reported for themselves and their spouses across several categories of personal property (including a home). Net worth was included in our analyses in addition to income because it captures additional variation in affluence and lifestyle that is missing from more constrained and volatile measures of yearly income.[33] Own home is a dichotomous measure based on whether the respondent reported owning (including paying a mortgage on) her own home in 1992/93.

Since marital status and marital history have been suggested as potentially relevant SES markers for women, we included two measures of marriage: (1) not married 1975, which serves both to indicate whether a respondent was married at about age 35 or 36 and to flag individuals who would not have a measure of spouse's income or occupation in 1974/1975 and (2) married 1993.

Number of biological children was reported in the telephone survey in 1992–93. Age at first birth was computed from respondents' responses to fertility history questions in 1975 and 1992–93. A variable for three children by age 24 was included because a previous Australian study found evidence that doctors were more likely to perform hysterectomies on women who had had a number of children early.[14] These variables about the timing and history of childbearing were included primarily as controls here because previous research has indicated that more children and a later age at first birth are associated with lower rates of hysterectomy.[14,34,35]

Maximum likelihood estimates from logistic regression models were evaluated for these analyses. In each case, respondents who indicated they had undergone a hysterectomy by age 53 or 54 were contrasted with respondents who had not. Initially, individual predictors or a related cluster of predictors were examined. In the final model, all predictors were examined net of the effects of all the others. The highest category of SES was contrasted with lower categories in each

TABLE 2—Gross and Net Odds Ratios for Predictors of Hysterectomy: The Wisconsin Longitudinal Study (n = 3326)

Predictor	1 Gross OR	2 Net OR	3 Net OR	4 Net OR	5 Net OR
Father's education					
Less than high school diploma	1.03				.97
High school diploma	.96				.93
Some college	.88				.86†
Bachelor's degree or higher[a]	1.00				1.00
−2 log likelihood	4093.55				
Mother's education					
Less than high school diploma	.95				.90
High school diploma	.93				.91
Some college	.89				.90
Bachelor's degree or higher[a]	1.00				1.00
−2 log likelihood	4096.82				
Father's occupational status 1957					
Lowest quintile	1.06				1.02
2nd quintile	1.12*				1.07
3rd quintile	1.01				.98
4th quintile	.98				.96
Highest quintile[a]	1.00				1.00
Missing	.81				.70†
−2 log likelihood	4092.38				
Parents' income 1957					
Lowest quintile	1.00				.95
2nd quintile	.96				.91†
3rd quintile	1.01				.97
4th quintile	.90*				.85**
Highest quintile[a]	1.00				1.00
Missing	1.06				1.02
−2 log likelihood	4092.37				
Respondent's education					
High school only	1.11**	1.10*	1.06	1.05	.98
Some college	1.10†	1.09	1.06	1.06	1.00
Bachelor's degree or higher[a]	1.00	1.00	1.00	1.00	1.00
−2 log likelihood	4093.67				
Mental ability					
Lowest quintile	1.09	1.05	1.02	1.02	1.01
2nd quintile	1.05	1.02	1.01	1.01	1.00
3rd quintile	1.11*	1.09†	1.08†	1.08†	1.09†
4th quintile	1.05	1.04	1.03	1.03	1.04
Highest quintile[a]	1.00	1.00	1.00	1.00	1.00
−2 log likelihood	4094.46	4091.21			
Respondent's occupational status 1975					
Lowest quintile	1.22**		1.17*	1.18*	1.15†
2nd quintile	1.14*		1.09	1.09	1.06
3rd quintile	1.07		1.02	1.04	1.03
3rd quintile	1.10†		1.06	1.08	1.05
Highest quintile[a]	1.00		1.00	1.00	1.00
Never worked as of 1975	1.32**		1.29*	1.32*	1.33**
−2 log likelihood	4085.73		4081.96		
Spouse's occupational status 1975					
Lowest quintile	1.07				1.01
2nd quintile	1.13*				1.07
3rd quintile	1.09†				1.05
4th quintile	.98				.95
Highest quintile[a]	1.00				1.00
Missing	1.22				1.15
Not married 1975	.82				.67
−2 log likelihood	4090.06				

(*Continued*)

case to allow us to evaluate evidence for a gradient relationship between SES and hysterectomy rather than only a marked differential between the lowest SES group and others. One-tailed tests of significance were used because substantial prior evidence allowed us to hypothesize that higher SES would be associated with a lower likelihood of hysterectomy.

TABLE 2—Continued

Predictor	Model				
	1 Gross OR	2 Net OR	3 Net OR	4 Net OR	5 Net OR
Respondent's income 1974					
No income	.98				.97
Lowest quintile	1.08				1.05
2nd quintile	1.06				1.01
3rd quintile	1.11				1.05
4th quintile	1.05†				1.00
Highest quintile[a]	1.00				1.00
Missing	.99				.97
−2 log likelihood	4092.44				
Spouse's income 1974					
No income	.98				.93
Lowest quintile	.99				.90
2nd quintile	1.07				.99
3rd quintile	1.08				1.00
4th quintile	1.06				1.01
Highest quintile	1.00				1.00
Missing	1.32				1.21
Not married 1975	.75				...[b]
−2 log likelihood	4093.93				
Married 1993	1.02				.99
−2 log likelihood	4098.62				
Net worth 1993					
≤$5 0000	1.05			1.01	1.08
$5 001–$25 000	1.21*			1.17*	1.26**
$25 001–$50 000	1.10			1.08	1.12
$50 001–$100 000	1.17**			1.14*	1.17*
$100 001–$200 000	1.09†			1.07	1.07
$200 001–$400 000	1.26***			1.26**	1.28***
>$400 000[a]	1.00			1.00	1.00
−2 log likelihood	4080.17			4065.05	
Own home 1993	1.05				1.07
Missing	1.18				1.32
−2 log likelihood	4097.91				
Number of children born					
None	.80*				.86†
1 child[a]	1.00				1.00
2 children	.97				.98
3 children	.93				.92
4 children	.84*				.82*
5+ children	.82*				.82*
Age at 1st birth, y					
≤19[a]	1.00				1.00
20–21	1.04				1.05
22–23	.89*				.91†
24–29	.75***				.75***
30–54	.68***				.70**
3 children by age 24	1.00				1.00
−2 log likelihood	4054.47				3994.31

Note. OR = odds ratio. Gross OR (model 1) indicates the odds ratio for each variable block considered separately. Net OR (models 2–5) indicates net odds ratio adjusted for all other variables in the model.
[a]Reference group.
[b]Odds ratio for not being married in 1975 is reported above with spouse's occupational status.
*P ≤ .05; **P ≤ .01; ***P ≤ .001 (one-tailed tests).
†P ≤ .10.

Results

Table 2 displays the results of five models. Model 1 in each case reports the gross effects of single variable blocks on the likelihood of having a hysterectomy. Models 2, 3, and 4 report net effects for selected additional multivariate analyses. Model 5 provides net odds ratio estimates for individual variables with all of the other analysis variables controlled.

The bivariate SES analyses reported in the first column of Table 2 (model 1) reveal that overall, respondent's child-hood SES as captured by the parental SES measures was not a robust predictor of hysterectomy. However, as in previous investigations of education and hysterectomy,[1,2] the Wisconsin Longitudinal Study women with at least a bachelor's degree had significantly lower odds of having a

hysterectomy than women with only a high school education; a trend effect was also found for the difference between women with a college degree and women with only some college.

Women with higher occupational status were found to have lower rates of hysterectomy. Women in the lowest quintile of occupational status had about 22% higher odds of undergoing hysterectomy than high-occupational-status women. The odds for women in the second lowest quintile were 14% higher. Women who had never worked before age 35 or 36 were at the greatest risk: their odds were about 32% higher than those of working high-occupational-status women.

The bivariate models for spouse's occupational status in 1975, respondent's income in 1974, spouse's income in 1974, and owning a home in 1993 did not evidence very strong associations with hysterectomy. Net worth in 1993, however, *did* yield several significant contrasts between women with the highest level of net worth and almost everyone else.

We estimated an additional two-variable model (model 2), which examined the effects of mental ability and education net of each other. The negative association between having a college degree and hysterectomy remains virtually the same when ability is held constant. These results refute the argument that ability accounts for the association of hysterectomy with educational attainment.

Previous status-attainment research has established how parental SES influences educational attainment, which, in turn, influences occupational attainment.[36] Building upon this tradition, we regressed respondent's education, ability, and occupational status simultaneously on the likelihood of hysterectomy to answer the question, Does education appear to influence the relative risk of hysterectomy through its effects on women's occupational status and experience? The results of this multivariate analysis (model 3) indicate that the answer to this question is yes, since when women's own occupational status is added to the model, the effects of education are reduced to nonsignificance while significant differences remain between women of the highest occupational status and women in the lowest-status jobs or women who had never worked.

In analyses not shown here we investigated whether for married working women in 1975, discordance between their and their husband's occupational status additionally helped predict hysterectomy. These results led us to conclude that intramarital status discordance was not an important factor to include in our models.

An additional intermediate model (model 4) that added net worth to the regression was estimated to evaluate whether the importance of a woman's occupational status for likelihood of hysterectomy might be explained by its influence on her family's accrual of assets and the security, control, and opportunities this provides. The results suggest that the importance of women's occupational status is *not* explained by its association with net worth, since in this model occupational status continues to be a significant predictor of hysterectomy.

Estimates from a final multivariate model that included all of the variables simultaneously (model 5) confirmed that women's own occupational status is the most robust net socioeconomic predictor of hysterectomy. Respondents in some, but not all, contrasted categories of family net worth were more likely to have had a hysterectomy than respondents in the wealthiest category; the association between net worth and hysterectomy does not appear to be a straightforward linear one. Neither marital status at age 35 or 36 nor marital status at age 53 or 54 showed critical associations with this health outcome. Fertility history showed relationships similar to those observed in previous work,[14,35] although multiple early births were not a significant predictor of hysterectomy for these women.

Discussion

These results suggest that among numerous competing SES indicators, a woman's own educational attainment, own occupational status, and, possibly, family net worth are associated with the most consistent beneficial effects on lowering her likelihood of hysterectomy. This is noteworthy because women's own occupational status and net worth are two of the *least* likely measures to be included in public health and epidemiological surveys.[33,37]

Selection on mental ability did *not* account for the education effect, yet education was no longer significantly associated with risk of hysterectomy when occupational status was added to a multivariate model. These estimates suggest a causal sequence in which education may benefit women's health by providing them with the skills, credentials, and competence to fulfill socially respected occupational roles.

These results are significant because they indicate that even for a cohort of women who came of age when employment was not emphasized or even necessarily expected for adult women, their own occupational status as measured in their mid-30s was a significant factor in determining their likelihood of undergoing surgery for hysterectomy. As employment becomes more continuous and central to women's lives among younger birth cohorts, women's own occupational status may play an even larger role in determining women's health care utilization. The relatively lower importance of childhood SES and spousal SES for predicting hysterectomy highlights the fact that the impact of women's own adult socioeconomic experience on health-related outcomes should not be underestimated.

More research is necessary to understand the processes whereby occupational status contributes to a reduction in the likelihood of hysterectomy. Unfortunately, a significant limitation of this analysis is that it cannot reveal whether SES is clearly associated with differences in actual reproductive organ health or with differences in the use (or overuse) of a medical procedure. Therefore, we can only speculate about the multiple processes that may be underlying the associations in evidence here.

It may be that higher-status employment is associated with more perceived control and mastery, less stress, and more satisfaction than low-status employment or no employment (i.e., the housewife role). These psychosocial factors may lead to better health, including reproductive organ health—thereby reducing the need for hysterectomy. It may also be that higher occupational status provides access to better health insurance benefits and higher quality medical care. Higher-status women may receive more preventive screening, which allows them to deal with reproductive organ problems (e.g., abnormal Pap smear results) before they become serious enough to necessitate surgery.[1] Also, higher-status women may be given more respect by medical professionals and offered more options for treatment once illness is discovered.[16,17,35] Or it may be that higher occupational status gives women more practice and increased competence in dealing proactively and authori-

tatively with their doctors—making it less likely that they will be pressured into having a hysterectomy when other means of dealing with a medical situation are possible.[16,35]

Although we are cautious about overinterpreting the association of our measure of current net worth with the prior occurrence of a hysterectomy, we still believe these results suggest further scrutiny of the more proximate mechanisms whereby net worth (above and beyond income, occupational status, education, and marital status) might also influence women's health-related outcomes. It is possible that wealth, more than income, reflects the gradation of social and economic security and status that provides substantial health-related benefits.

These results confirm the importance for those involved in developing public health surveys and doing health research of including multiple measures of SES, including occupational status and wealth, for women as well as men, in epidemiologic, health, and social science surveys. Education is an important predictor of women's health-related outcomes, but it is insufficient to settle on use of this measure of SES alone as adequate to guide the study of how SES affects health and health care utilization.[19,33]

Although these analyses did not include the most disadvantaged women in the total American population (i.e., those who did not finish high school and minority women), there was evidence that even among the relatively advantaged, differences in education and occupational status are associated with differences in the likelihood of undergoing a major surgical procedure. Finding SES differences in this non-Hispanic White sample also highlights the fact that race/ethnicity is *not* an adequate proxy measure for SES in health statistics. These results lend additional support for the hypothesis that the public health issue underlying the relationship between SES and health-related outcomes is that of a societywide *gradient,* not simply a difference between the most severely disadvantaged members of society and everyone else. □

References

1. Kjerulff K, Langenberg P, Guzinski G. The socioeconomic correlates of hysterectomies in the United States. *Am J Public Health.* 1993;83:106–108.
2. Meilahn EN, Matthews KA, Egeland G, Kelsey SF. Characteristics of women with hysterectomy. *Maturitas.* 1989;11:319–329.
3. Adler NE, Boyce WT, Chesney MA, Folkman S, Syme SL. Socioeconomic inequalities in health: no easy solution. *JAMA.* 1993;269:3140–3145.
4. Antonovsky A. Social class, life expectancy and overall mortality. *Milbank Q.* 1967;45:31–73.
5. House JS, Kessler RC, Herzog AR, Mero RP, Kinney AM, Breslow MJ. Age, socioeconomic status, and health. *Milbank Q.* 1990;68:383–411.
6. House JS, Lepkowski JM, Kinney AM, Mero RP, Kessler RC, Herzog AR. The social stratification of aging and health. *J Health Soc Behav.* 1994;35:213–234.
7. Feinstein JS. The relationship between socioeconomic status and health: a review of the literature. *Milbank Q.* 1993;71:279–322.
8. Longino CF, Soldo B. The graying of America: implications of life extension for quality of life. In: Ward RA, Tobin SS, eds. *Health and Aging: Sociol Issues Policy Dir.* New York, NY: Springer; 1987:58–85.
9. Marmot MG, Kogevinas M, Elston MA. Social/economic status and disease. *Annu Rev Public Health.* 1987;8:111–135.
10. Link BG, Phelan JC. Editorial: Understanding socioeconomic differences in health—the role of fundamental social causes. *Am J Public Health.* 1996;86:471–473.
11. Pokras R, Hufnagel VG. Hysterectomies in the United States, 1965– 84. *Vital Health Stat [13].* 1987; no.92. DHHS publication PHS 88-1753.
12. Hagstad A, Johansson S, Wilhelmsson C, Janson PO. Gynaecology of middle-aged women—menstrual and reproductive histories. *Maturitas.* 1985;7:99–113.
13. Van Keep PA, Wildermeersch D, Lehert P. Hysterectomy in six European countries. *Maturitas.* 1983;5:69–75.
14. Santow G, Bracher M. Correlates of hysterectomy in Australia. *Soc Sci Med.* 1992;34:929–942.
15. Coulter A, McPherson K, Vessey M. Do British women undergo too many or too few hysterectomies? *Soc Sci Med.* 1988;27:987–994.
16. Fisher S. *In the Patient's Best Interest.* New Brunswick, NJ: Rutgers University Press; 1988.
17. West S. *The Hysterectomy Hoax.* New York, NY: Doubleday; 1994.
18. Lee PR, Moss N, Krieger N. Measuring social inequalities in health: report on the Conference of the National Institutes of Health. *Public Health Rep.* 1995;110:302–305.
19. Leigh JP. Multidisciplinary findings on socioeconomic status and health. *Am J Public Health.* 1993;83:289.
20. Marks NF. Socioeconomic status, gender, and health at midlife. In: Kronenfeld JJ, ed. *Research in the Sociology of Health Care.* Vol 13A. Greenwich, Conn: JAI Press; 1996:135–152.
21. Winkleby MA, Jatulis DE, Frank E, Fortmann SP. Socioeconomic status and health: how education, income, and occupation contribute to risk factors for cardiovascular disease. *Am J Public Health.* 1992;82:816–820.
22. Mechanic D. Socioeconomic status and health: an examination of underlying processes. In: Bunker JP, Gomby DS, Kehrer BH, eds. *Pathways to Health: The Role of Social Factors.* Menlo Park, Calif: Henry Kaiser Family Foundation; 1989:9–26.
23. Arber S. Measuring social inequalities in health for different population groups: limitations and opportunities in current measures. Presented at NIH conference on Measuring Social Inequalities in Health; September 28–30, 1994; Annapolis, Md.
24. Arber S. Gender and class inequalities in health: understanding the differentials. In: Fox J, ed. *Health Inequalities in European Countries.* Aldershot, England: Gower Press; 1989:250–279.
25. Graham H. *Women, Health and the Family.* Brighton, England: Wheatsheaf Books; 1984.
26. Kessler RC. A disaggregation of the relationship between socioeconomic status and psychological distress. *Am Sociol Rev.* 1982;47:752–764.
27. McLeod JD, Kessler RC. Socioeconomic status differences in vulnerability to undesirable life events. *J Health Soc Behav.* 1990;31:162–172.
28. Hauser RM, Carr D, Hauser TS, et al. *The Class of 1957 after 35 Years: Overview and Preliminary Findings.* Madison, Wis: Center for Demography and Ecology, University of Wisconsin–Madison; 1994. CDE Working Paper 93-17 (revised).
29. Hauser RM, Featherman DL. *The Process of Stratification: Trends and Analyses.* New York, NY: Academic Press; 1977.
30. Stevens G, Featherman DL. A revised socioeconomic index of occupational status. *Soc Sci Res.* 1982;8:201–221.
31. Hauser RM, Warren JR. Socioeconomic indexes for occupations: a review, update, and critique. In: Raftery AE, ed. *Sociological methodology.* Vol. 27. Cambridge, Mass: Basil Blackwell; In press.
32. Schaie KW. The hazards of cognitive aging. *Gerontologist.* 1989;29:484–493.
33. Hauser RM, Carr D. *Measuring Poverty and Socioeconomic Status in Studies of Health and Well-Being.* Madison, Wis:

Center for Demography and Ecology, University of Wisconsin–Madison; 1994. CDE Working Paper 94-24.

34. Shinberg DS. *An Event History Analysis of Age at Last Menopause Period: Correlates of Natural and Surgical Menopause among Midlife Wisconsin Women.* Madison, Wis:

Center for Demography and Ecology, University of Wisconsin–Madison; 1995. CDE Working Paper 95-18.

35. Santow G. *Education and Hysterectomy.* Stockholm, Sweden: Stockholms Universitet; 1995: Stockholm Research Reports in Demography 89.

36. Hauser RM, Tsai SL, Sewell WH. A model of stratification with response error in social and psychological variables. *Sociol Ed.* 1983;56:20–46.

37. Krieger N, Fee E. Social class: the missing link in U.S. health data. *Int J Health Serv.* 1994;24:25–44.

Erratum

In: DuRant RH, Rome ES, Rich M, Allred E, Emans SJ, Woods ER. Tobacco and Alcohol Use Behaviors Portrayed in Music Videos: A Content Analysis. *Am J Public Health.* 1997;87:1131–1135.

In Table 4, column 3, the percentage of videos with a moderate level of sexuality or eroticism on Black Educational Television (BET) was incorrectly reported as 82% as a result of a journal staff proofreading error. The correct percentage is 8.4%. The corrected table is reprinted below.

TABLE 4—Degree of Sexuality or Eroticism in Televised Music Videos, by Network and Genre

	No Reference	Present But Minor	Moderate Level	Significant/ Major Part
Network*				
MTV	73.7	16.5	5.9	3.9
VH1	68.7	13.3	15.7	2.4
CMT	80.2	13.8	4.9	1.0
BET	59.3	21.4	8.4	10.9
Genre*				
Adult contemporary	54.8	19.4	19.4	6.5
Country	81.1	13.5	4.5	0.9
Rock	76.5	14.2	6.8	2.5
Rap	71.7	15.9	3.5	8.9
Rhythm and blues	45.5	26.7	15.8	11.9

Note. The table shows percentages of videos that fell into each category.
*$P \le .0001$.